

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 95-029
NPDES NO. CA0038059

REISSUING WASTE DISCHARGE REQUIREMENTS FOR:

AQUIFER RECLAMATION/SALINITY BARRIER WELLS
ALAMEDA COUNTY WATER DISTRICT
FREMONT AND NEWARK, ALAMEDA COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region,
(hereinafter the Board) finds that:

1. Alameda County Water District, hereinafter discharger, by application dated January 12, 1994, has applied for reissuance of waste discharge requirements and a permit to discharge wastewater under the National Pollutant Discharge Elimination System (NPDES).
2. The discharger is currently rehabilitating the Niles Cone Groundwater Basin Aquifers by removing saline water which has intruded from San Francisco Bay and by creating a barrier controlling further intrusion. Up to 30 million gallons per day (mgd) of extracted brackish water is pumped from a total of 14 wells to six discharge locations in the Fremont-Newark area at locations shown in the chart below (the discharge serial and well site numbers are those used in the discharger's application). Maps showing the 14 wells and the discharge locations are appended as ATTACHMENT A, hereinafter a part of this Order.

Effluent Stream No.	Discharge Serial No.	Highest Monthly Average Flow and Discharge Location	Well Site
E-07	01	2 mgd to Alameda Creek Flood Control Channel (Latitude 37° 35' 37"; Longitude 122° 05' 28")	S.B.P. "E"
E-08	02	2 mgd to Alameda Creek Flood Control Channel (Latitude 37° 33' 52"; Longitude 122° 05' 35")	S.B.P. "D"
E-01	03	3.3 mgd to Alameda Creek Flood Control Channel (Latitude 37° 34' 40"; Longitude 122° 03' 20")	Lowry Well

Effluent Stream No.	Discharge Serial No.	Highest Monthly Average Flow and Discharge Location	Well Site
E-05 E-05 E-10	04	7.3 mgd (total) to Newark Slough (Latitude 37° 31' 40"; Longitude 122° 03' 20")	Dervon 1 Dervon 2 S.B.P. "C"
E-06 E-06 E-02 E-02	05	9.9 mgd (total) to Plumer Creek (Latitude 37° 30' 40"; Longitude 122° 03' 10")	Willwood 1 Willwood 2 Cedar 1 Cedar 2
E-03 E-12 E-04 E-13	06	5.3 mgd (total) to Mowry Slough (Latitude 37° 30' 20"; Longitude 122° 00' 40")	Bellflower S.B.P. "B" Farwell S.B.P. "A"

3. The discharges are presently subject to NPDES Permit No. CA0038059 (Order No. 89-122, adopted July 19, 1989) which allows discharge into San Francisco Bay.
4. The Board adopted a revised Water Quality Control Plan for the San Francisco Basin (Basin Plan) on December 17, 1986. The Board amended its Basin Plan on September 16, 1992, and the State Board approved it on April 27, 1993, with the approval from the State Office of Administrative Law pending. Section 1 of the 1992 Basin Plan amendments, "Implementation of Statewide Plans," was remanded by the State Board on June 23, 1994, due to its reliance on two Statewide Plans that are no longer legally in effect. The Basin Plan identifies beneficial uses and water quality objectives for surface and groundwaters in the region, as well as effluent limitations and discharge prohibitions intended to protect beneficial uses. This Order implements the plans, policies and provisions of the Board's Basin Plan.
5. Effluent limitations in this permit are based on the plans, policies, and water quality criteria of the Basin Plan, *Quality Criteria for Water* (EPA/5-86-001, 1986; Gold Book), applicable Federal Regulations (40 CFR Parts 122 and 131), and Best Professional Judgement.
6. The beneficial uses of South San Francisco Bay and contiguous water bodies include:
 - Industrial Service Supply
 - Navigation
 - Water Contact Recreation
 - Non-contact Water Recreation
 - Ocean Commercial and Sport Fishing
 - Wildlife Habitat
 - Preservation of Rare and Endangered Species
 - Fish Migration

- Fish Spawning
 - Shellfish Harvesting
 - Estuarine Habitat
7. The Basin Plan contains a prohibition of discharge of any wastewater which has particular constituents of concern to beneficial uses at any point at which the wastewater does not receive a minimum initial dilution of at least 10:1, or into any non-tidal water, dead-end slough, similar confined waters, or immediate tributaries thereof, or to San Francisco Bay south of the Dumbarton Bridge. This discharge complies with the three prohibitions because it does not contain particular characteristics of concern to beneficial uses.
 8. This Order serves as an NPDES permit, issuance of which is exempt from the provisions of Chapter 3 (commencing with Section 2100 of Division 13) of the Public Resources Code (CEQA) pursuant to Section 13389 of the Water Code.
 9. The dischargers and interested agencies and persons have been notified of the Board's intent to reissue requirements for the existing discharge and have been provided an opportunity to submit their written views and recommendations.
 10. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED, pursuant to the provisions of Division 7 of the California Water Code and regulations adopted thereunder, and to the provisions of the Clean Water Act and regulations and guidelines adopted thereunder, that the dischargers shall comply with the following:

A. DISCHARGE PROHIBITIONS

1. The discharge of effluents other than described in this Order is prohibited.
2. The utilization of wells described in Finding 2 in clean-up of manufactured pollutants as a result of leaks, spills, or other incidents is prohibited without the prior approval of the Executive Officer.

B. EFFLUENT LIMITATIONS

1. The survival organisms in undiluted effluent shall be an eleven (11) sample median value of not less than 90 percent survival, and an eleven (11) sample 90 percentile value of not less than 70 percent survival. The eleven sample median and 90th percentile effluent limitations are defined as follows:

- 11 sample median: A bioassay test showing survival of less than 90 percent represents a violation of this effluent limit, if five or more of the past ten or less bioassay tests show less than 90 percent survival.
- 90th percentile: A bioassay test showing survival of less than 70 percent represents a violation of this effluent limit, if one or more of the past ten or less bioassay tests show less than 70 percent survival.

C. RECEIVING WATER LIMITATIONS

1. The discharge of waste shall not cause the following conditions to exist in waters of the State at any place at levels that cause nuisance or adversely affect beneficial uses:
 - a. Floating, suspended, or deposited macroscopic particulate matter or foam;
 - b. Bottom deposits or aquatic growths to the extent that such deposits or growths cause nuisance or adversely affect beneficial uses;
 - c. Alteration of temperature, turbidity, or apparent color beyond present natural background levels;
 - d. Visible, floating, suspended, or deposited oil or other products of petroleum origin;
 - e. Toxic or other deleterious substances to be present in concentrations or quantities which will cause deleterious effects on wildlife, waterfowl, or other aquatic biota, or which render any of these unfit for human consumption, either at levels created in the receiving waters or as a result of biological concentration.
2. The discharge of waste shall not cause the following limits to be exceeded in waters of the State in any place within one foot of the water surface:

a. Dissolved Oxygen	5.0 mg/l, minimum.
b. Dissolved Sulfide	0.1 mg/l, maximum
c. pH	Variation from normal ambient pH by more than 0.5 pH units.
d. Un-ionized Ammonia	0.025 mg/l as N, Annual Median 0.4 mg/l as N Maximum
3. The discharge shall not cause a violation of any particular water quality standard for receiving waters adopted by the Board or the State Board as required by the Clean Water Act and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to Section 303 of the Clean Water Act, or amendments thereto, the Board will revise and modify this Order in accordance with such more stringent standards.

D. PROVISIONS

1. The requirements prescribed by this Order supersede the requirements prescribed by Order No. 89-122. Order No. 89-122 is hereby rescinded.
2. The discharger shall comply with all sections of this Order immediately upon adoption.
3. Compliance with Acute Toxicity Effluent Limitation
 - a. Compliance with Effluent Limitation B.4. (Acute Toxicity) of this Order shall be evaluated by measuring survival of test organisms acceptable to the Executive Officer exposed to undiluted effluent for 96 hours in static renewal bioassays.
 - b. All bioassays shall be performed according to protocols approved by the USEPA or State Board, or published by the American Society for Testing and Materials (ASTM) or American Public Health Association.
4. The discharger shall comply with the **Self-Monitoring Program** for this order, as adopted by the Board and as may be amended by the Executive Officer.
5. The discharger shall comply with all applicable items of the attached "**Standard Provisions and Reporting Requirements**" dated August 1993, or any amendments thereafter.
6. The Board may modify, or revoke and reissue, this Order and Permit if present or future investigations demonstrate that the discharge governed by this Order is causing or significantly contributing to adverse impacts on water quality and/or beneficial uses of the receiving waters.
7. This Order expires on January 18, 2000. The dischargers must file a report of waste discharge in accordance with Title 23, Chapter 3, Subchapter 9 of the California Administrative Code not later than 180 days before this expiration date as application for reissuance of waste discharge requirements.
8. This Order shall serve as a National Pollutant Discharge Elimination System (NPDES) permit pursuant to Section 402 of the Clean Water Act or amendments thereto, and shall become effective 10 days after the date of its adoption provided the Regional Administrator, EPA, has no objection. If the Regional Administrator objects to its issuance, the permit shall not become effective until such objection is withdrawn.

I, Steven R. Ritchie, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on February 15, 1995.

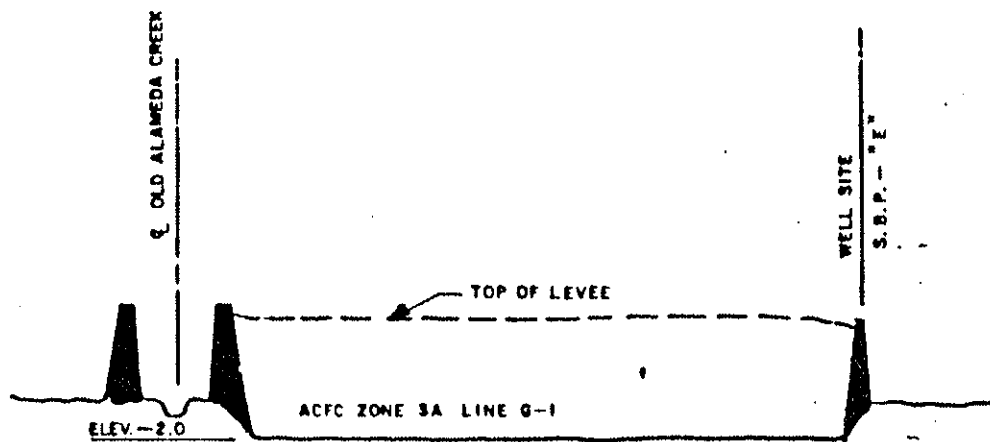
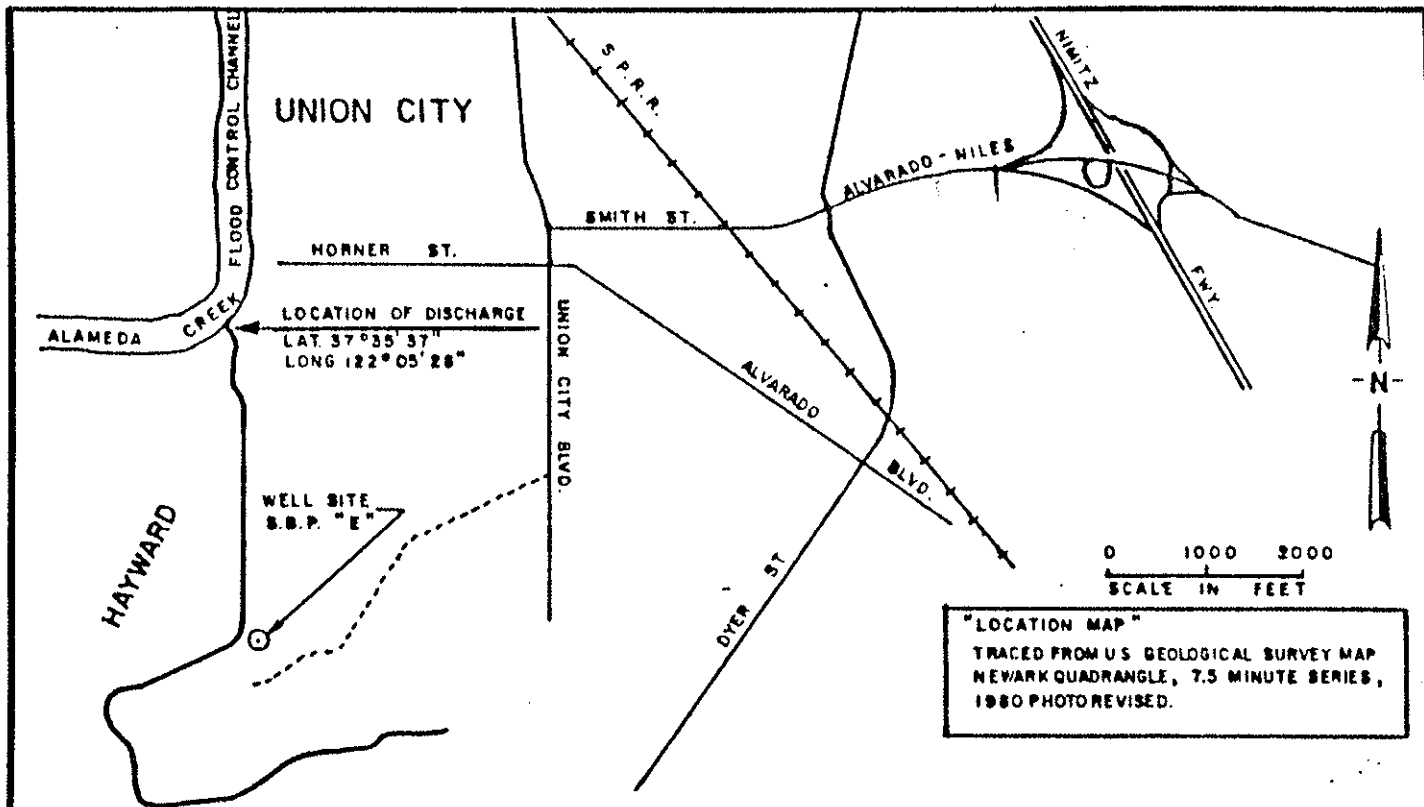


STEVEN R. RITCHIE
Executive Officer

Attachments:

Attachment A - Location Maps (6) of ACWD Wells and Discharge Locations
Self-Monitoring Program
Standard Provisions and Reporting Requirements - August 1993

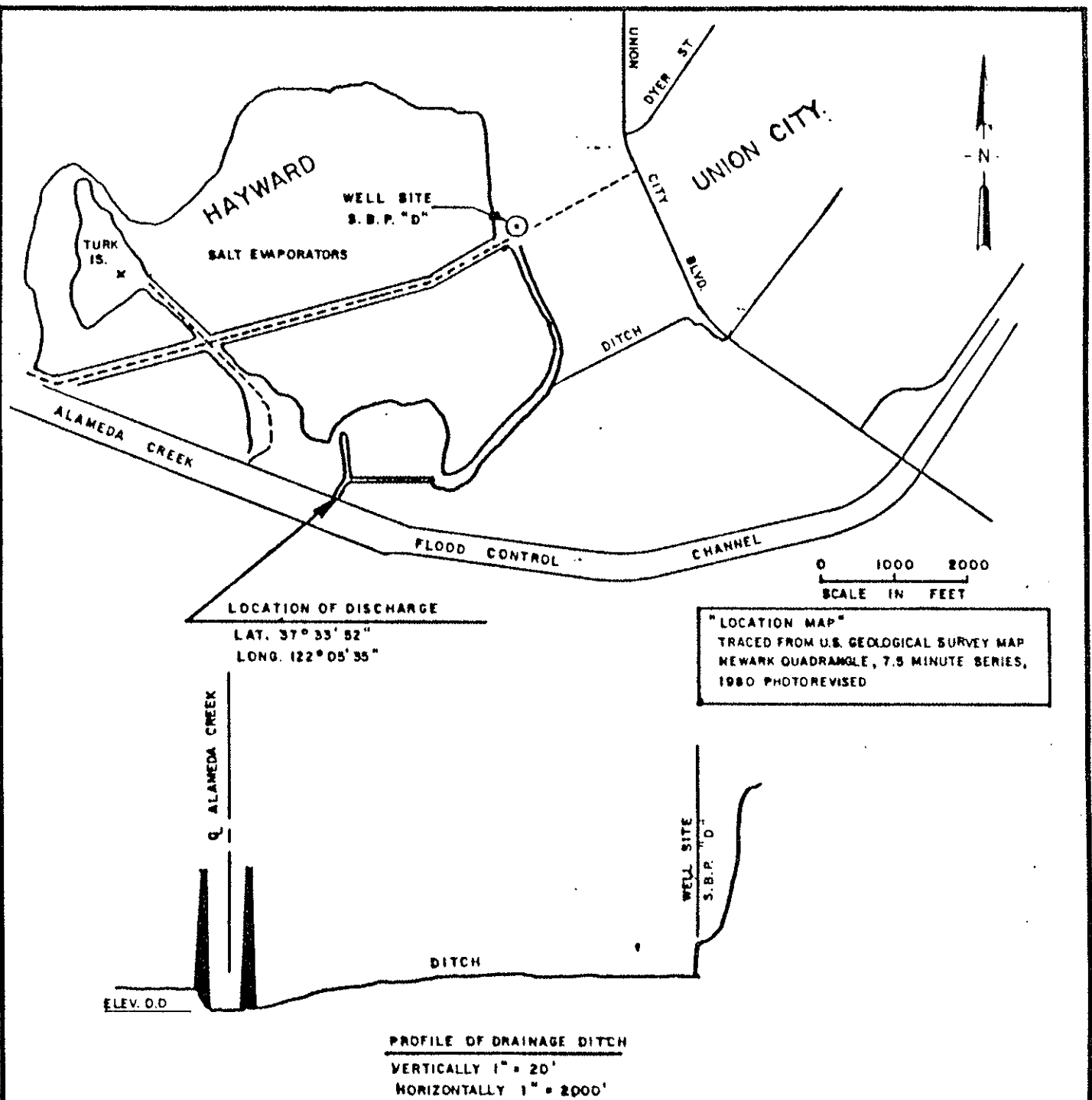
ATTACHMENT A



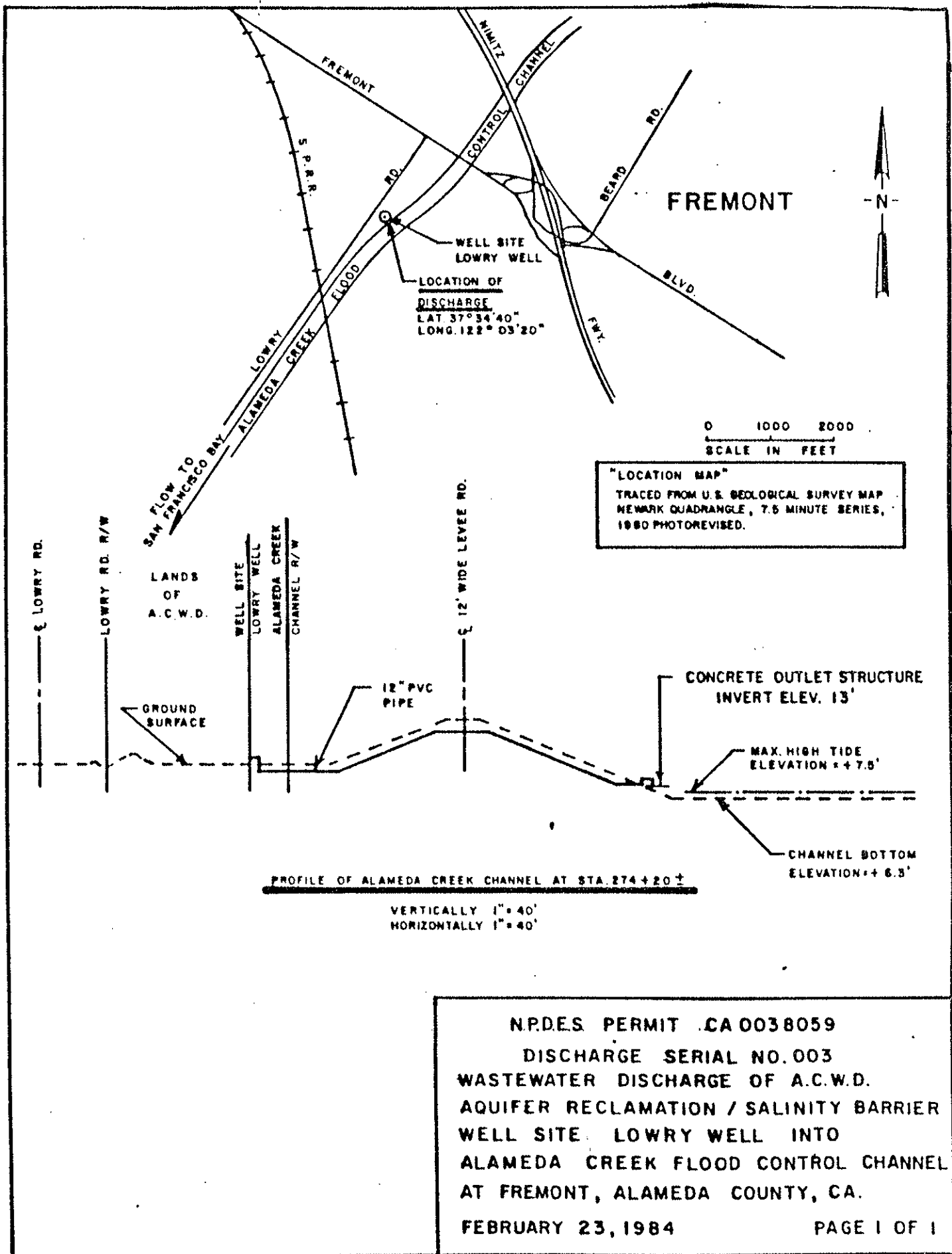
PROFILE OF LINE G-1
VERTICALLY 1" = 20'
HORIZONTALLY 1" = 1000'

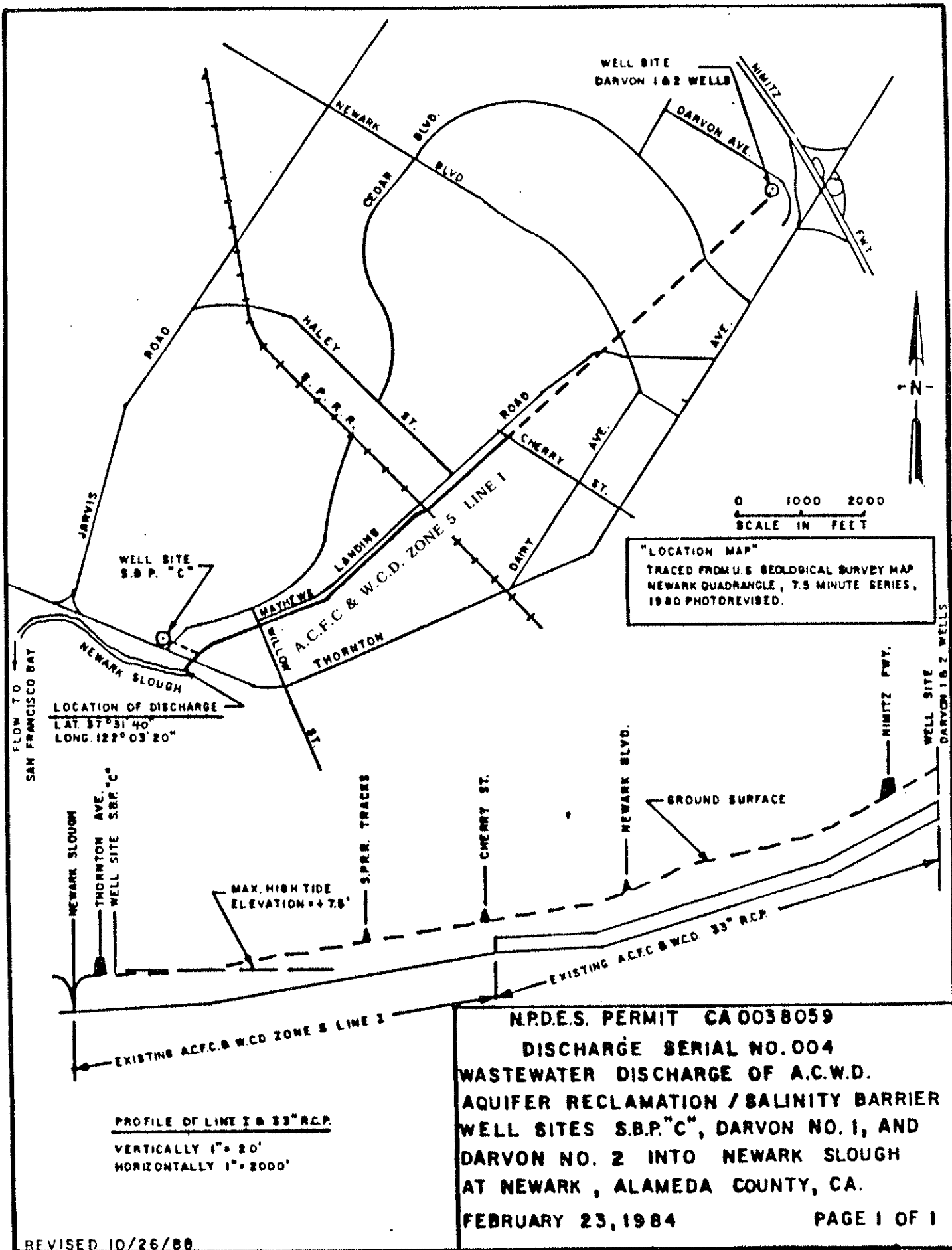
NPDES PERMIT CA0038059
DISCHARGE SERIAL NO. 001
WASTEWATER DISCHARGE OF A.C.W.D.
AQUIFER RECLAMATION / SALINITY BARRIER
WELL SITE S.B.P. - E INTO OLD
ALAMEDA CREEK AT HAYWARD
ALAMEDA COUNTY, CA.
FEBRUARY 23, 1984

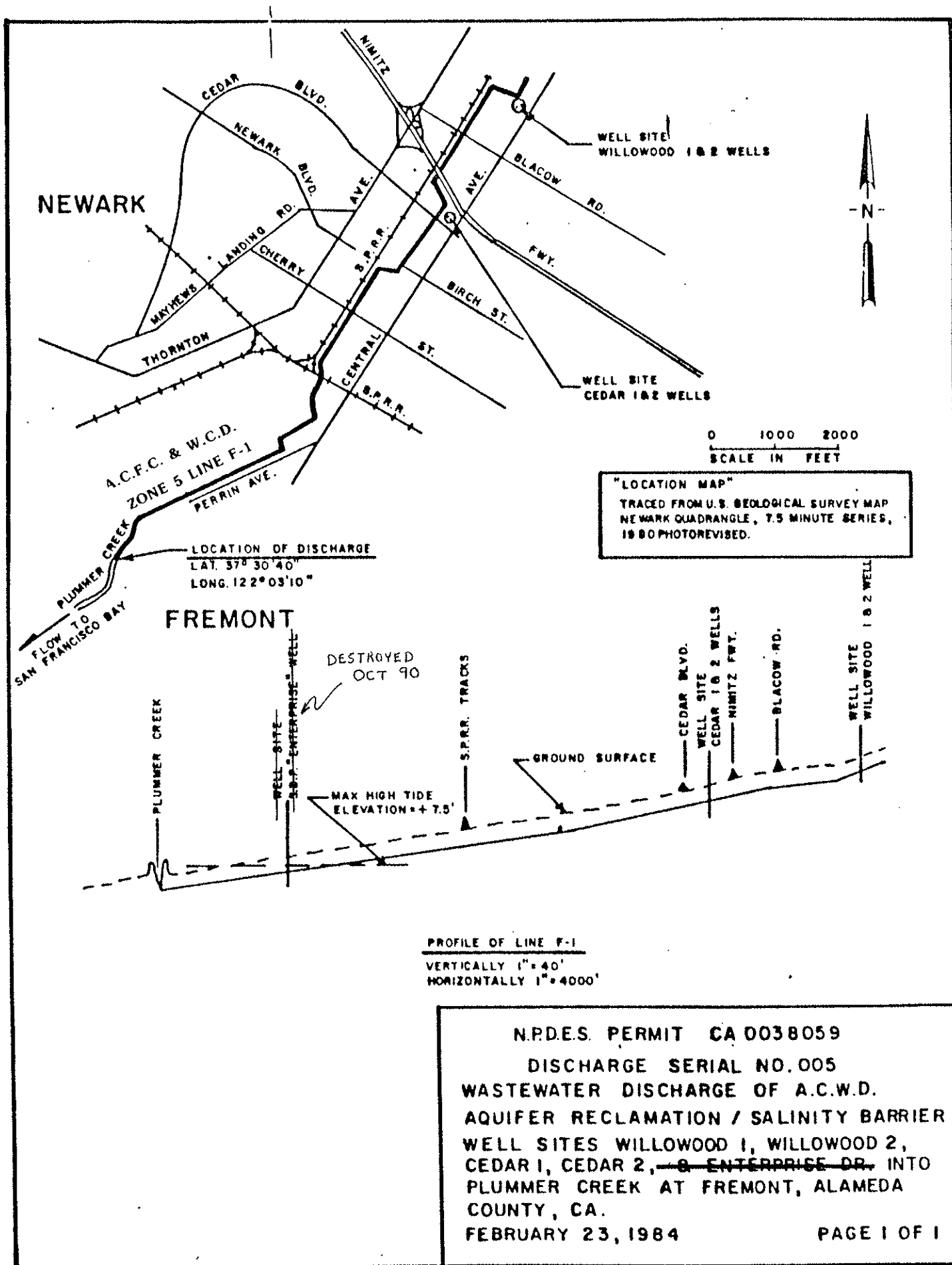
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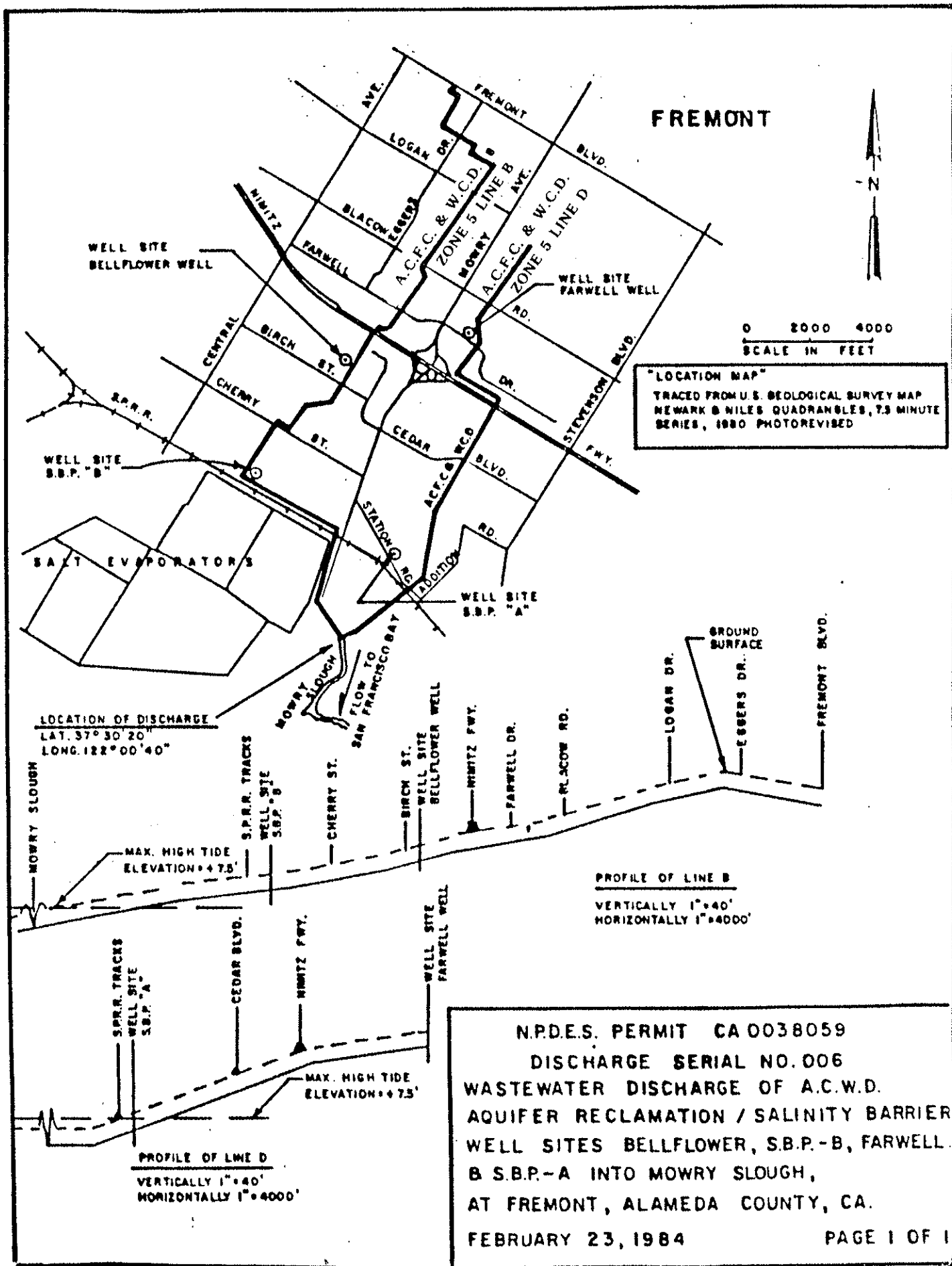


N.P.D.E.S. PERMIT CA0038059
 DISCHARGE SERIAL NO.002
 WASTEWATER DISCHARGE OF A.C.W.D.
 AQUIFER RECLAMATION / SALINITY BARRIER
 WELL SITE S.B.P. - D INTO
 ALAMEDA CREEK FLOOD CONTROL CHANNEL
 AT HAYWARD, ALAMEDA COUNTY, CA.
 FEBRUARY 23, 1984 PAGE 1 OF 1









CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM
FOR
AQUIFER RECLAMATION/SALINITY BARRIER WELLS
ALAMEDA COUNTY WATER DISTRICT
FREMONT AND NEWARK, ALAMEDA COUNTY

NPDES NO. CA0038059
ORDER NO. 95-029

CONSISTING OF
PART A, DATED AUGUST 1993
AND PART B

PART B

I. DESCRIPTION OF SAMPLING STATIONS

Each of the fourteen effluent streams, E-01 through E-13 (E-09 and E-11 have been destroyed) shall be sampled at a point between each well and its point of discharge into an adjacent Alameda County Flood Control and Water Conservation District's flood control channel.

II. SCHEDULE OF SAMPLING, ANALYSIS AND OBSERVATIONS


The schedule of sampling, analysis and observation shall be that given in Table 1.

III. MODIFICATIONS OF PART "A", DATED AUGUST 1993

- A. Following paragraphs of Part A are excluded: Paragraphs C.1., C.2. (except C.2.b.), C.3., C.4., C.5., D.1., D.3., D.4., D.5., E.3., E.4., F.4.c, F.4.e..
- B. Part A, Paragraph F.4. shall be modified to: "Written reports shall be filed regularly for each calendar quarter by the fifteenth day of the month following the end of each calendar quarter..."

I, Steven R. Ritchie, Executive Officer, hereby certify that this Self-Monitoring Program:

- 1. Has been developed in accordance with the procedures set forth in this Regional Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements established in Regional Board Order No. 95-029.
- 2. May be reviewed at any time subsequent to the effective date upon written notice from the Executive Officer or request from the discharger, and revisions will be authorized by the Executive Officer.
- 3. Is effective on the date shown below.


STEVEN R. RITCHIE
Executive Officer

Effective Date: 2/15/91

Attachment:
A. Table 1

TABLE 1
SCHEDULE OF SAMPLING, MEASUREMENTS, AND ANALYSIS

NPDES NO. CA0038059
ORDER NO. 95-029

SAMPLING STATIONS	All E Stations
TYPE OF SAMPLES	Grab
Flow Rate (mgd)	M
Acute Toxicity - 96 Hour (% survival) ⁽¹⁾	M
Total Dissolved Solids (mg/l)	M
pH (Units)	M
Temperature (°C)	M
Chlorides (mg/l)	M
Standard Observations ⁽²⁾	M
Ethylene Dibromide (μg/l) ⁽³⁾	2/Y
Bromoform (μg/l) ⁽³⁾	2/Y
1,2 dichloroethane (μg/l) ⁽³⁾	2/Y
Dibromochloroethane (μg/l) ⁽³⁾	2/Y
Priority Pollutants - Volatile Organics (Method 8240)	Y
Priority Pollutants - Semivolatile Organics (Method 8270)	Y

LEGEND FOR TABLE 1

E = waste effluent stations
M = One sample per month
2/Y = Two samples per year
 at six month intervals
Y = One sample per calendar year

NOTES FOR TABLE 1:

- (1) Compliance with the effluent toxicity requirement shall be determined by performing static renewal (using a new 24-hour composite sample for each day of the four day test) bioassays using two test species. One shall be three-spine stickleback, and other shall be either rainbow trout or fathead minnow. The discharger shall conduct the bioassay testing on two discharging wells every month. If possible, the bioassay testing shall be conducted on wells not tested during the previous quarter. The Executive Officer may consider dropping the static renewal and the two test species requirements to a 96-hour static test using one test species one year after the effective date.
- (2) Standard Observations includes noting the presence or absence and the source of floating and suspended material of waste origin (such as oil, grease, algae, and other macroscopic particulate matter).
- (3) Ethylene dibromide, Bromoform, 1,2 dichloroethane and Dibromochloromethane samples shall be taken at E-10 only as a check on FMC-Newark cleanup action. No detection is expected at the implementation of this SMP. Sampling is only for precautionary measures.